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Revision of the subtribe Clavigerodina and an annotated catalogue of South African Clavigeritae (Coleoptera: Staphylinidae: Pselaphinae)

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ABSTRACT

The subtribe Clavigerodina (Coleoptera: Staphylinidae, subfamily Pselaphinae, supertribe Clavigeritae) of South Africa is revised. A key to genera and species is given. One new genus, *Zuluclavodes* gen. n., and five new species, *Zuluclavodes briantaylori* sp. n., *Novoclaviger joncooteri* sp. n., *N. pugionis* sp. n., *N. reticulatus* sp. n., and *Pararticerus ruthae* sp. n. are described. Lectotypes are designated for *Novoclaviger braunsi* (Wasmann, 1897) and *N. wroughtoni* (Wasmann, 1894). Two species groups based on *N. gibbiventris* and *N. wroughtoni* are defined for the genus *Novoclaviger* Wasmann, 1894. New combinations are established: *Novoclaviger auriculatus, N. braunsi, N. capensis* and *N. majusculus*. *Pararticerus* Jeannel, 1955 is reinstated from the synonymy of *Articerodes* Raffray, 1890, and *Fustigeropsis simplex* is considered as a junior synonym of *F. peringueyi* (Raffray, 1887). A catalogue of members of the supertribe Clavigeritae occurring in South Africa with their known host ants is provided.

KEY WORDS: Coleoptera, Staphylinidae, Pselaphinae, Clavigeritae, Clavigerodina, Afrotropical, South Africa, taxonomy, ant-loving beetles, rove beetles.

INTRODUCTION

The Clavigeritae is a group of about 350 species and 98 genera that belongs to the subfamily Pselaphinae of the large family Staphylinidae. It is generally believed that all members of Clavigeritae are obligate myrmecophiles. After the reduction of the status of 14 tribes to the rank of subtribes (Besuchet 1991), there are now only three tribes: the large world-wide Clavigerini comprising 14 subtribes and the two monogeneric tribes—the Colilodionini from southern Asia and the Tiracerini known only from Australia (but also represented by some still-undescribed species from New Caledonia (Besuchet 1991)).

The subtribe Clavigerodina currently contains 61 genera and 191 species: 39 genera are monotypic, and members of this subtribe have a high degree of endemism; 52 genera are known from only one zoogeographical region; ten genera are known from two regions. Only *Fustiger* LeConte, 1866 is close to being a cosmopolitan genus—it is known from five zoogeographical regions. *Fustiger* is absent from South Africa, the southern part of South America, Madagascar, and Australia. This very unusual distribution should be checked and it is very probable that the generic concept of *Fustiger* will be modified in the future.

The Clavigeritae of South Africa has been relatively well-studied. The first clavigerine, *Commatocerus peringueyi*, was described by Raffray (1887). Later, other species were added by Péringuey (1888), Raffray (1890, 1897, 1901, 1910), Wasmann (1894, 1897*a*, 1898, 1925), and Reichensperger (1915). The first synopsis was published by Raffray (1897), who recognised five species in four genera. More recently the group was revised twice by Jeannel (1955, 1964). Jeannel described two new monotypic genera, *Pararticerus* Jeannel, 1955 and *Dejaegeria* Jeannel, 1964, and recognised three tribes with nine genera and 15 species. Only three papers have been published on the South African fauna since Jeannel's contributions: a description of the monotypic genus *Villofustiger*

Leleup & Célis, 1968, and two contributions by Coulon (1982, 1983) with a new synonymy of *Pararticerus latus* (Raffray, 1990) but without new descriptions. The present work is therefore the first paper describing new taxa of Clavigeritae from South Africa in 38 years. Four subtribes, 11 genera, and 20 species are recognised in total. Information on them, including type species, type localities, host ants and distribution, is summarised in the annotated catalogue at the end of this paper. It is evident that new species and even new genera will certainly be discovered with additional collecting efforts.

MATERIAL AND METHODS

Specimens prepared for morphological study were examined with a Leica S8APO stereo-microscope with diffuse lighting at magnifications up to 12×. Male genitalia and other dissected parts were studied using a Zeiss transmitted-light microscope at magnifications up to 500×. Genital segments were dissected and treated with KOH when necessary. All drawings were made using a drawing tube. The dissected and mounted parts were mounted and pinned with the specimen.

The following acronyms are used in the text:

FMNH – Field Museum of Natural History, Chicago, USA;
MHNG – Muséum d'Histoire Naturelle, Genève, Switzerland;
MNHN – Muséum National d'Histoire Naturelle, Paris, France;
MRAC – Musée Royal du Congo Belge, Tervuren, Belgium;
OXUM – Oxford University Museum of Natural History, Oxford, UK;
TMSA – Transvaal Museum, Pretoria, South Africa;
CPH – private collection of the author.

The following symbols are used in type descriptions: the slash symbol '/' separates data from different labels; my remarks and clarifications are given in square brackets; [p] denotes printed labels and [h] denotes handwritten labels. All taxa are arranged alphabetically.

Head length is measured from the base to the anterior margin of the frontal rostrum; head width is measured across the eyes; elytra length is measured along the suture; the width of antennal segments is their maximum width.

TAXONOMY

Subtribe Clavigerodina Schaufuss, 1882

The subtribe Clavigerodina is characterised within the tribe Clavigerini by the combination of the following characters: (1) eyes present and prominent; (2) number of antennomeres varying from 3 to 6; (3) head with lateral margins straight or slightly convergent to occiput posterior to eyes; (4) humeral angles of elytra rounded, not projecting laterally; (5) lateral margins of pronotum convergent or parallel at base; (6) head separated from neck by an occipital carina; and (7) head lacking median longitudinal sulcus.

Key to genera of South African Clavigerodina

1 Antennae with 6 antennomeres 2
– Antennae with 3–5 antennomeres 3

2 Antennal club two-segmented, terminal segment about 3.5 times as long as antennomere V .... **Dejaegeria** Jeannel

– Antennal club four-segmented, terminal segment only slightly longer than antennomere V .... **Zuluclavodes** gen. nov.

3 Antennae with 5 antennomeres .... **Commatocerodes** Péringuey
– Antennae with 3 or 4 antennomeres 4

4 Antennae with 4 antennomeres 5
– Antennae with 3 antennomeres .... **Villofustiger** Leleup & Célis

5 Slender, elongate species, rostrum slightly expanded anteriorly and rounded, legs long, punctation of anterior part of body fine and sparse; frons prolonged with well-defined constriction, apical antennal segment very long .... **Fustigeropsis** Raffray
– Robust, larger species, rostrum more or less acuminate, punctation of anterior part coarse 6

6 Trichomes on paratergites absent, antennomere III about as long as II .... **Novoclaviger** Wasmann
– Trichomes on first visible paratergite present, antennomere III much longer than II .... **Pararticerus** Jeannel

Genus *Commatocerodes* Péringuey, 1888

Commatocerodes: Péringuey 1888: 85; Raffray 1897: 120; Jeannel 1964: 210.

Diagnosis: Head slightly longer than wide and slightly longer than pronotum, both with rough, regular microsculpture, frontal rostrum prominent, rather triangular; antennae with five antennomeres, first minuscule, not visible dorsally, antennomere III slightly shorter than IV, terminal antennomere cylindrical, more than six times as long as IV; pronotum wider than long, median antebasal fovea present, lateral foveae only weakly defined; elytra opaque, shagreened and with fine and sparse setation, with about 12–16 erect macrosetae on sides, posterior part of elytra lacking trichomes, trichomes on edge of composite tergum small, first paratergites with large trichomes; mesofemora and tibiae with spines in males.

Sexual dimorphism: Females unknown to the author.

Commatocerodes raffrayi Péringuey, 1888

Figs 1, 9, 10, 34

Commatocerodes raffrayi: Péringuey 1888: 85; Raffray 1897: 120; Jeannel 1964: 210, figs 310–313.

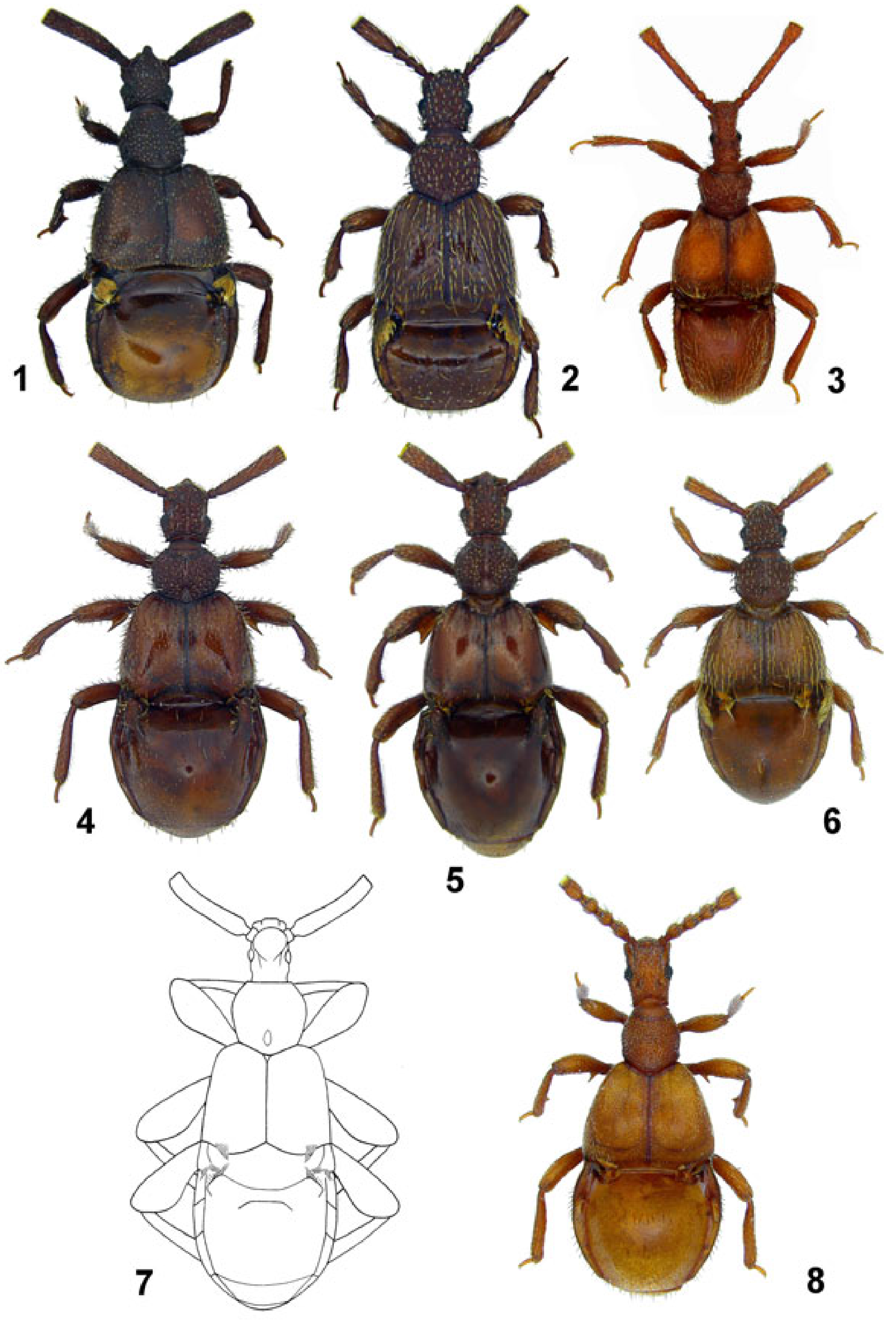
Types of this species were not available for study. The shape of the aedeagus (Figs 9, 10) from the single specimen available differs in certain details from the figure given by Jeannel (1964: 211, fig. 313). As Jeannel's drawings are often inaccurate, and I did not find any other relevant differences between this specimen and Jeannel's description, I place this specimen as *C. raffrayi* for the time being.

Material examined: ♂ SOUTH AFRICA: *KwaZulu-Natal*: 'N. Zululand, Ndumu store, 26.55S:32.18E [26°55'S:32°18'E] / 3.xii.1992: E-Y: 2876, at light, leg. Endrödy-Younga' (TMSA).

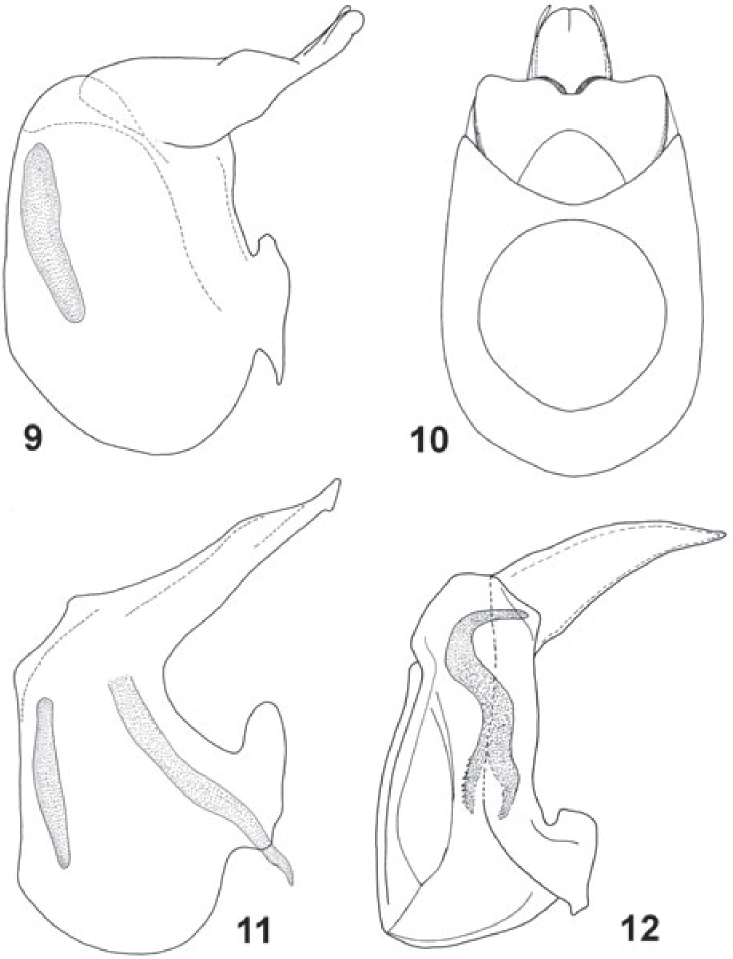
Genus *Dejaegeria* Jeannel, 1964

Dejaegeria: Jeannel 1964: 212.

Diagnosis: Head slightly longer than wide, widest in level of eyes, rostrum roundly pointed, temples behind eyes parallel, with erect setae, antennae 6-segmented, antenno-



Figs 1–8. Habitus of South African Clavigerodina: (1) *Commatocerodes raffrayi*, (2) *Dejaegeria joannae*, (3) *Fustigeropsis peringueyi*, (4) *Novoclaviger gibbiventris*, (5) *N. joncooteri*, (6) *Pararticerus latus*, (7) *Villofustiger gibbiceps*, (8) *Zuluclavodes briantaylori*.



Figs 9–12. Aedeagi of some South African Clavigerodina: (9, 10) *Commatocerodes raffrayi*, lateral and dorsal aspects; (11) *Dejaegeria joannae*, lateral aspect; (12) *Fustigeropsis peringueyi*, lateral aspect.

mere I minuscule, not visible dorsally, antennomeres II and III subequal in size, slightly longer than wide, terminal antennomere long, about three times as long as V and longer than III–V combined, terminal antennomere truncate apically, covered with dense, erect setae; pronotum about as long as wide, spherical, rugose, with large, shallow and rugose antebasal fovea, lateral foveae well-defined, lacking any sulcus; elytra shorter than abdomen, shiny with sparse punctation and setation that is much denser on lateral margin, with about 10 lines of suberect setae, on posterior margin with small, well-defined trichomes, with few but longer setae, trichomes also present on composite tergum, lacking on first visible paratergite, basal impression of composite tergum shorter, simple.

Sexual dimorphism: Females larger, males with mesotibiae and mesofemora bearing short spines.

Dejaegeria joannae Jeannel, 1964

Figs 2, 11, 35

Dejaegeria joannae: Jeannel 1964: 213, figs 316–318.

Description: Body reddish brown, variable in size, length ♂ 1.66–1.75 mm, ♀ 1.72–1.95 mm; antennomere III about 1.18 times as long as IV and about 0.81 times as long as V, terminal segment 3.5 times as long as V and 1.4 times as long as III–V combined, about 2.6 times as long as wide at apex; sharp spine of mesofemora moderate in size, located at base; sharp, acute spine of mesotibiae located in apical third.

Holotype: ♂ SOUTH AFRICA: *Mpumalanga*: '[p] [red label] HOLOTYPUS / [p] Transvaal: Pilgrims Rest., distr. Graskop Forest [24°53'S:30°45'E], humus (ZA, 15), N. Leleup, viii. 1960 / [h] 15 / [p] *Dejaegeria joannae* Jeannel [red ink] T. / [h] *Dejägeria joannae* Jeannel, Det. M-J. Celis, 1973 / [h] *Dejägeria pilgrimana* n / [red ink] [h] HOLOTYPE [p] *Dejaegeria joannae* Jeannel, P. Hlaváč det., 2006' (TMSA).

Paratypes: 2♂ 1♀ '[p] [red label] PARATYPES / [p] Transvaal: Pilgrims Rest., distr. Graskop Forest [24°53'S:30°45'E], humus (ZA, 15), N. Leleup, viii. 1960 / [h] 15 / [h] *Dejägeria johannae* [sic] [p] det. R. Jeannel 1963 / [red ink] [h] PARATYPE [p] *Dejaegeria joannae* Jeannel, P. Hlaváč det., 2006' (TMSA).

Other material examined: SOUTH AFRICA: *Mpumalanga*: 6♂ 1♀ 'Tvl. Uitsoek, Grootkloof, ind. for. 25.15°S:30.33°E [25°15'S:30°33'E] / 9.iv.1984, E-Y: 2458, ant nest in wood, leg. Endrödy-Younga'; 1♂ 'Blyfstaanhoogte Forest, WSW of Sabie, 1240 m, 25°13.1'S:30°36.9'E / 31.i.–24.ii.2004, afromontane forest, w/ ground ferns, few lianas, FMHD, #2004-028, flight intercept trap, Solodovnikov, Newton et al., 1083'; 4♂ 3♀ 'E Transvaal, Berlin Forest St. [nr Elandshoek], 25.33°S:30.44°E [25°33'S:30°44'E] / 23.x.1986 E-Y: 2304, window trap, leg. Endrödy-Younga'; 1♂ 'E Transvaal, Berlin Forest St., 25.33°S:30.44°E / 7.xii.1986 E-Y: 2362, groundtraps, leg. Endrödy-Younga'; 1♀ 'E Transvaal, gorge-edge, 25.32°S:30.44°E / 3.ii.1987 E-Y: 2405, beating bushes, leg. Endrödy-Younga' (all in TMSA, FMNH, CPH).

Genus *Fustigeropsis* Raffray, 1890

Fustigeropsis: Raffray 1890: 164, 167; 1897: 116; 1908: 438 (redescription, list of species); Jeannel 1964: 211 (redescription).

Diagnosis: Head almost twice as long as wide, maximum width across eyes, rostrum slightly expanded anteriorly and rounded, temples behind eyes parallel, antennae 4-segmented, antennomere I minuscule, not visible dorsally, antennomeres II and III subequal in size, slightly longer than wide, terminal antennomere very long, more than 7 times as long as III, apex of terminal antennomere truncate, covered with dense, erect setae; pronotum slightly wider than long, rugose, with small antebasal fovea, lateral foveae well-defined, lacking any sulcus; elytra shorter than abdomen, bearing weakly defined trichomes on posterior part, pair of trichomes also present on composite tergum and first visible paratergites, basal impression of composite tergum well-defined, simple in male; all femora simple, lacking spines in both sexes, mesotibiae in male with sharp preapical spines.

Sexual dimorphism: In female, mesotibiae are simple and lacking spines, the composite tergum with three basal lobes that are created by a short but stout median carina.

Fustigeropsis peringueyi (Raffray, 1887)

Figs 3, 12, 34

Commatocerus peringueyi: Raffray 1887: 19.
Fustigeropsis peringueyi (Raffray): Raffray 1897: 116; Jeannel 1964: 212, figs 314, 315.
Fustigeropsis simplex Raffray, 1905: 455. **Syn. n.**

Description: Body elongate, light reddish brown, sparsely pubescent, slightly shiny; length ♂ 1.90–1.98 mm, ♀ 1.99–2.17 mm; maximum width of elytra ♂ 0.65–0.70 mm, ♀ 0.70–0.72 mm; head clearly longer than wide, about 1.75–1.82 as long as wide, and slightly longer than pronotum; eyes prominent; pronotum about as long as wide; antennae long, terminal segment in male more than 7.3 times as long as antennomere III, in female less than 7.2 times as long as antennomere III. Sharp spines of mesotibiae in male located close to apex.

Notes: *F. peringueyi* was based on one female from 'Du Cap de Bonne-Espérance', French for the Cape of Good Hope, located close to Cape Town. Later Raffray (1897) stated another locality, Potchefstroom, North West. This last location was also cited as the type locality by Jeannel (1964). This situation has generated some confusion. I have not seen any specimens of *Fustigeropsis* from the former Cape Province, all specimens were collected only in Free State, North West and Gauteng, so I assume that the original statement about the type locality was incorrect, and that the second locality given by Raffray (1897) is true. *F. simplex*, differing from *F. peringueyi* by shorter antennae and the presence of a short median carina on the composite tergum that creates three basal lobes, was described by Raffray from Bothaville, Free State. Both species were each described based on a single female as stated by Raffray (sic!—holotype of *F. simplex* is a male), and the abdomen of *F. peringueyi* was badly damaged (Raffray 1887: 19). This may explain why Raffray overlooked the fact that the females of both species have the same abdominal structure. This character is in fact present only in females, with another sexual difference being that the males always have longer antennae. Based on these facts, I am of the opinion that *F. simplex* is conspecific with *F. peringuyei*.

Type material: ♀ [holotype of *peringueyi*] SOUTH AFRICA: *North West*: 'Potchefstroom [26º42'S:27º06'E], Peringuey / Transvaal / [red label] TYPE / [blue label] MUSEUM PARIS, 1917, COLL. A. RAFFRAY / *F. peringueyi* [p] A. Raffray det. / *Fustigeropis peringueyi* / *Fustigeropis peringueyi* R., Det. Celis 1974. / *Fustigeropsis peringuyei* (Raffray) = *F. simplex* Raffray, P. Hlaváč det. 2006'; ♂ [holotype of *simplex*] SOUTH AFRICA: *Free State*: '[h] Bothaville [27º23'S:26º37'E], Dr. Brauns / [red label] [p] TYPE / [h] Afrique austr. / [blue label] [p] MUSEUM PARIS, 1917, COLL. A. RAFFRAY / [h] *F. simplex* [p] A. Raffray det. / [h] *Fustigeropsis simplex* / [red label] [p] LECTOTYPE, *Fustigeropsis* (Raffray), P. Hlaváč det., 2006 / *Fustigeropsis peringuyei* (Raffray) = *F. simplex* Raffray, P. Hlaváč det. 2006 / [red ink] HOLOTYPE *Fustigeropsis simplex* (Raffray), P. Hlaváč des. 2006' (both MNHN).

Other material examined: SOUTH AFRICA: *Gauteng*: ♂ 'host ant / Johannesburg, Transvaal Dr. Brauns / Péringueyi Raffr / *Fustigeropsis Peringueyi* Raffr / *Fustigeropsis Peringueyi* RAFFRAY [red ink] / *Fustigeropsis peringuyei* (Raffray) = *F. simplex* Raffray, P. Hlaváč det. 2006' (TMSA); 1♀ 'Irene [25º53'S:28º13'E], 19.vii.1931, G. v. Son. / *Fustigeropsis peringuyei* (Raffray) = *F. simplex* Raffray, P. Hlaváč det. 2006' (TMSA); *Free State*: 1♀ 'Bothaville [27º23'S:26º37'E], Orange Fr. St., Dr. Brauns 20.i.[18]99 / *Fustigeropsis péringueyi* R; 1♀ det. Raffray. / [red label] *Fustigeropsis simplex* Type Raffray / *Fustigeropsis peringuyei* (Raffray) = *F. simplex* Raffray, P. Hlaváč det. 2006' (TMSA); 1♂ 'Bothaville, Orange Fr. St., Dr. Brauns [h] 20.I.[18]99 / *Fustigeropsis péringueyi* R; 1♂ det. Raffray / host ant: *Monomorium albopilosum* Emery, B. Taylor det. 2006 / *Fustigeropsis peringuyei* (Raffray) = *F. simplex* Raffray, P. Hlaváč det. 2006' (CPH); 1♀ 'Bothaville, Orange Fr. St., Dr. Brauns, 21.iv.[18]99 / *Fustigeropsis peringuyei* (Raffray) = *F. simplex* Raffray, P. Hlaváč det. 2006' (TMSA). UNKNOWN COUNTRY: 2♂ '164/06' (TMSA).

Genus *Novoclaviger* Wasmann, 1894

Novoclaviger: Wasmann 1894: 214; Raffray 1897: 119.

Fustigerodes Reitter, 1884: Raffray 1897: 117; 1908: 438 (synonymy of *Novoclaviger*); Wasmann 1898: 96; 1925: 235.

Fustigerodes subgen. *Novoclaviger* Wasmann: Wasmann 1897*a*: 202; Jeannel 1964: 207 (as a subgenus of *Fustigerodes*, redescription, list of species with localities).

Diagnosis: Head longer than wide, antennae 4-segmented, apical antennomere very long, more than 3.5 times longer than wide, antennomere III about as long as II; head and pronotum rugose; pronotum with median antebasal and lateral foveae; composite tergum with large basal impression and more or less developed process separating it from paratergites, paratergites lacking trichomes.

Description: Length 1.56–2.71 mm, head longer than wide, maximum width across eyes with prominent, more or less acute frontal rostrum, antennomeres I–III small, apical antennomere very long, much longer that I–III combined, cylindrical, subcylindrical or conical; antennomere III parallel or weakly thickened distally; pronotum almost globular, densely and roughly punctured, basal fovea more or less clearly defined but always present, longitudinal sulcus from smooth and well-defined to almost absent; elytra usually smooth (*N. reticulatus* is an exception), longer than wide, posterior, external angles truncate; triangular tooth of mesofemora large to small, occupying part or almost half of femoral length, mesotibiae with an obtuse, large to small, slender spine located close to or more distantly from apex.

Sexual dimorphism: Females usually smaller, lacking spines on mid femora and tibiae.

Comparison: *Novoclaviger* is most closely related to *Fustigerodes* from Madagascar and to *Articerodes* Raffray, 1890 from Africa and the Palaearctic region up to Japan. It differs from both by the composite tergum with a lateral fringe of the basal impression more or less separated by a prolonged process, by the four-segmented antennae, and by lacking trichomes on the first and second visible paratergites.

Distribution: South Africa, Mozambique (?).

Host ants: *Rhoptromyrmex transversinodis* Mayr, 1901; *Crematogaster* (*Crematogaster*) *peringueyi*; *Crematogaster* (*Decacrema*) *liengmei* Forel, 1894; *Tetramorium* (*Xiphomyrmex*) *weitzeckeri* Emery, 1895; *Lepisiota capensis* (Mayr, 1862).

Key to the species of *Novoclaviger*

1 Composite tergum with basal impression large, with lateral fringe very close to paratergites (*wroughtoni* group) .... **wroughtoni** (Wasmann)

– Composite tergum with basal impression smaller, with lateral fringe clearly distant from paratergites, separated by prolonged process on composite tergum (*gibbiventris* group) 2

2 Disc of elytra matt, with reticulate microsculpture .... **reticulatus** sp. n.

– Disc of elytra smooth, shiny 3

3 Lateral process on composite tergum large, elongate and depressed at tip, rugose and bicarinate 4

– Lateral process on composite tergum smaller, upper part rounded, convex or flat, lacking any trace of carinae .... **auriculatus** (Wasmann)

4 Antennomere IV less than 3.9 times as long as wide 5

– Antennomere IV more than 4 times as long as wide 7

5 Longitudinal sulcus on pronotum smooth, well-defined; triangular tooth of mesofemora large, occupying almost half of femoral length, spines on mesotibiae more distant from apex 6

– Longitudinal sulcus on pronotum almost absent, rugose; triangular tooth of mesofemora smaller, located more basally, spines on mesotibiae closer to apex .... **braunsi** (Wasmann)

6 Rostrum prominent, acute, head with rough reticulate structure on whole surface, mesofemora in male normally developed, with shallow groove from middle to apex .... **majusculus** (Péringuey)

– Rostrum roundly acute, head with rough reticulate structure only on base and evanescent on rostrum, mesofemora in male swollen, with large and deep groove from middle to apex .... **joncooteri** sp. n.

7 Posterior part of elytra with high prominence bearing setae (trichomes) adjacent to abdominal prominences .... **gibbiventris** (Raffray)

– Posterior part of elytra simple, lacking any prominences, sometimes with a few setae on apex 8

8 Longitudinal sulcus on pronotum smooth, well-defined, abdomen broader than elytra, triangular tooth of mesofemora large, occupying almost half of femoral length, mesotibiae with large, obtuse tooth .... **pugionis** sp. n.

– Longitudinal sulcus on pronotum almost absent, rugose, abdomen as broad as elytra, triangular tooth of mesofemora smaller, located more basally, mesotibiae with sharp, acute spine .... **capensis** (Péringuey)

The *gibbiventris* group

Diagnosis: Larger species, body length 1.92–2.71 mm, rostrum prominent, roundly acute, composite tergum with lateral fringe of basal impression smaller, distant from paratergites, separated by well-defined prolonged processes, abdomen clearly longer and wider than elytra.

Species included: *N. auriculatus*, *braunsi*, *capensis*, *gibbiventris*, *joncooteri*, *majusculus*, *pugionis*, *reticulatus*.

Novoclaviger auriculatus (Wasmann, 1898), **comb. n.**

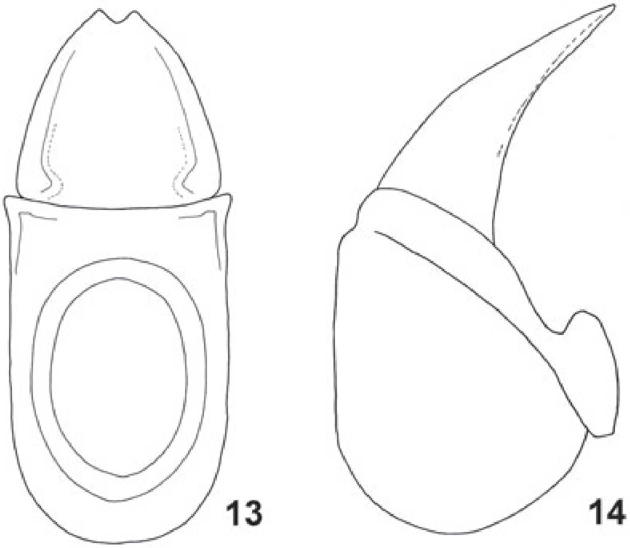
Figs 13, 14, 36

Fustigerodes auriculatus: Wasmann 1898: 98; Raffray 1898: 412.
Fustigerodes (s. str.) *auriculatus* Wasmann: Jeannel 1964: 209, fig. 306 (aedeagus).

Differential diagnosis: This species is easily distinguished from other species of the *gibbiventris* group by the unique structure of the lateral processes on the composite tergum.

Description: Body reddish brown, 2.06–2.22 mm long and 0.78–0.86 mm wide, head 1.15–1.20 times as long as wide and slightly shorter than pronotum, reticulate structure on whole surface but less defined, frontal rostrum roundly acute, clypeus clearly visible dorsally, tempora slightly convergent; antennae longer, terminal antennomere conical, 4.73–4.82 times as long as wide, antennomere III almost quadrate; pronotum about 1.08–1.10 times as wide as long, with 6 or 7 macrosetae on sides, longitudinal sulcus well-defined, posterior part of elytra simple, lacking setae, disc and abdomen smooth and shiny, humeri with 6 or 7 macrosetae; lateral processes on composite tergum smaller, upper part rounded, convex, lacking any trace of carinae; triangular tooth of mesofemora large, occupying almost half of femoral length, mesofemora normally developed with shallow groove extending from middle to apex, sharp, acute spine of mesotibiae located close to apex.

Holotype: ♂ [lacking aedeagus] SOUTH AFRICA: *Eastern Cape*: '[blue label] [h] Dr. Brauns, Port Elizabeth, *Rhopalomyrmex transversinodis* / [blue label] MUSEUM PARIS, 1917, COLL. A. RAFFRAY / [h] *F. auriculatus* A. Raffray det. / C. B. S. / *Fustigerodes auriculatus* / [red ink] HOLOTYPE *Novoclaviger auriculatus* (Wasmann), P. Hlaváč det. 2006.' (MNHN).



Figs 13, 14. *Novoclaviger auriculatus*, aedeagus, dorsal and lateral aspects.

Other material examined: ♂ SOUTH AFRICA: *Eastern Cape*: 'Algoa Bay, Capland, Dr. Brauns, 5.vi.97 /♂ / [reddish brown label] *Fustigerodes auriculatus* Wasm., Type ♂'; ♀ 'Algoa Bay, Capland, Dr. Brauns / [h] ♀ / [reddish brown label] [h] *Fustigerodes auriculatus* Wasm., Type ♀ ' (both TMSA).

Novoclaviger braunsi (Wasmann, 1897), **comb. n.**

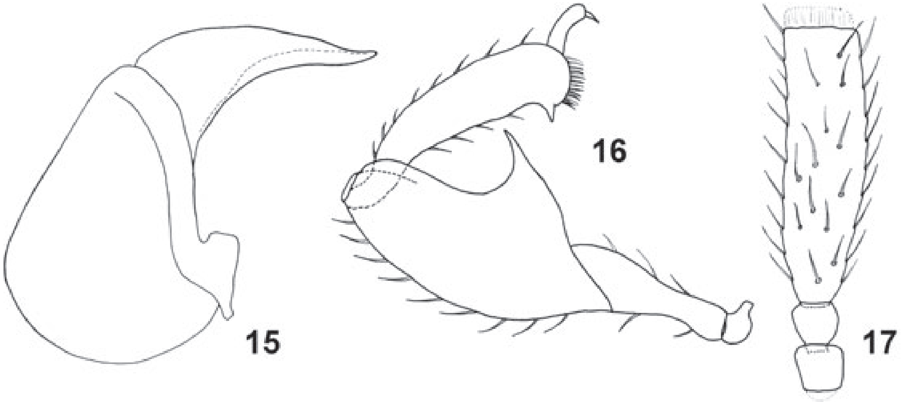
Figs 15–17, 36

Fustigerodes braunsi: Wasmann 1897*a*: 201; 1898: 97 (as a synonym of *Fustigerodes majusculus* Wasmann); 1925: 235, 236, fig. 2 (revalidation of species).
Fustigerodes (s. str.) *braunsi* Wasmann: Jeannel 1964: 210.

Differential diagnosis: This species is closely related to *N. majusculus* and *N. joncooteri*, sp. n. from which it differs by having a well-defined, smooth longitudinal sulcus on the pronotum, and the spines of the mesotibiae located more distantly from the apex.

Description: Body reddish brown, 2.11–2.19 mm long and 0.91–0.97 mm wide, head 1.14–1.19 times as long as wide and about as long as pronotum, reticulate surface evanescent on rostrum, frontal rostrum roundly acute, clypeus clearly visible dorsally, tempora slightly convergent; antennae shorter, terminal antennomere subcylindrical, 3.67–3.75 times as long as wide, antennomere III weakly thickened distally; pronotum about 1.13–1.22 times as wide as long, with 6 or 7 macrosetae on sides, longitudinal sulcus almost absent, posterior part of elytra with a high prominence bearing trichomes opposite abdominal prominence, disc smooth, shiny; abdomen smooth and shiny, humeri with 6 or 7 macrosetae; lateral processes on composite tergum large, elongate, depressed at tip, rugose and bicarinate; triangular tooth of mesofemora moderate in size, located at base, mesofemora normally developed with shallow groove extending from middle to apex, sharp, acute spine of mesotibiae located close to apex.

Lectotype (here designated): ♂ SOUTH AFRICA: *Eastern Cape*: '[p] Algoa Bay [Port Elizabeth, 33°57'S:25°35'E], Capland, Dr. Brauns / [h] *Fustigerodes majusculus* ♀ Pér. / [reddish brown label] [h] *Fustigerodes braunsi* ♀ , Type Wasm. / [red label] [p] LECTOTYPE, *Fustigerodes braunsi* Wasmann, P. Hlaváč des., 2006' (TMSA).



Figs 15–17. Details of *Novoclaviger braunsi*: (15) aedeagus, lateral aspect; (16) right middle leg; (17) last three antennomeres of right antenna.

Paralectotypes: SOUTH AFRICA: *Eastern Cape*: ♀ '[p] Algoa Bay, Capland, Dr. Brauns / [h] *Fustigerodes majusculus* ♀ [illegible text]' (TMSA); ♀ '[p] Algoa Bay, Capland, Dr. Brauns / [h] ♀ / [h] *Fustigerodes majusculus* ♀ [illegible text] / [reddish brown label] [h] *Fustigerodes braunsi* ♀ Type Wasm.' (TMSA); ♂ '[h] ♂ / [p] Algoa Bay, Capland, Dr. Brauns [h] 10.ii.97' (CPH); ♂ '[h] ♂ / [p] Algoa Bay, Capland, Dr. Brauns [h] 26.xi.00 / [reddish brown label] [h] *Fustigerodes braunsi* ♂ Type Wasm. / [red ink] *Fustigerodes braunsi* Wasm., ♂ Type 249' (TMSA). All paralectotypes bear the red label: '[p] PARALECTOTYPE, *Fustigerodes braunsi* Wasmann, P. Hlaváč des., 2006'.

Note: There are five specimens of *Fustigerodes braunsi* Wasmann in the TMSA collection with the following label: 'Algoa Bay, Capland, Dr. Brauns'. I believe that these form the syntype series.

Other material examined: ♂ 'CBS [? Caput Bonae Spei = Cape of Good Hope, Western Cape] / *F. majusculus* A. Raffray det. / [blue label] Muséum Paris, 1917, Coll. A. Raffray' (MNHN).

Novoclaviger capensis (Péringuey, 1888), **comb. n.**

Commatocerus capensis: Péringuey 1888: 84.
Fustigerodes capensis (Péringuey): Raffray 1897: 117.
Fustigerodes (s. str.) *capensis* (Péringuey): Jeannel 1964: 208, fig. 303 (habitus).

Differential diagnosis: This species is most closely related to *N. pugionis* sp. n., from which it differs in having the longitudinal sulcus on the pronotum poorly developed, almost absent, and a different shape of the tooth and spine on the mesofemora and mesotibiae.

Description: Body from reddish brown to dark brown, 1.92–1.95 mm long and 0.78–0.80 mm wide, head 1.05 times as long as wide and about as long as pronotum, surface not reticulate, punctured on whole surface, frontal rostrum round, clypeus clearly visible dorsally, tempora slightly convergent; antennae longer, terminal antennomere subcylindrical, 4.61–4.73 times as long as wide, antennomere III almost quadrate; pronotum about 1.08–1.14 times as wide as long, macrosetae on sides absent, longitudinal sulcus almost absent, posterior part of elytra simple, without macrosetae, disc smooth, shiny; abdomen smooth and shiny, humeri lacking macrosetae; lateral processes on composite tergum large, elongate, depressed at tip, rugose and bicarinate; triangular tooth of mesofemora moderate in size, located at base, mesofemora normally developed with shallow groove from middle to apex, sharp, acute spine of mesotibiae located some distance from apex.

Material examined: SOUTH AFRICA: *Eastern Cape*: 1♂ 'S Africa 6.x.[19]01, Grahamstown [33°18'S:26°31'E], Dr. C. Le Boux'; 1♂ 'Caffraria, Weale 1878, Coll. Westw. / *Fustigerodes capensis* Per., Cl. Besuchet, dét.

ii.1983 / [h] *Novoclaviger capensis* Pér. Cl. Besuchet, dét. 2001' (both MHNG). UNKNOWN COUNTRY: 1♂ [lacking aedeagus] '*Commatocerus capensis* 67 [illegible text] / [blue label] MUSEUM PARIS, 1917, COLL. A. RAFFRAY / *F. capensis* A. Raffray det. / *Fustigerodes capensis*' (MNHN).

Novoclaviger gibbiventris (Raffray, 1910), **comb. n.**

Figs 4, 18, 37

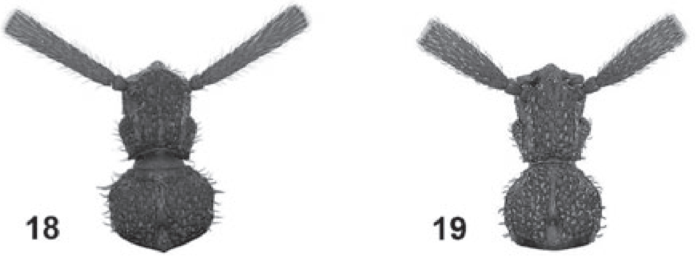
Fustigerodes gibbiventris: Raffray 1910: 422.
Fustigerodes (s. str.) *gibbiventris* Raffray: Jeannel 1964: 210, figs 304, 309 (habitus and aedeagus).

Differential diagnosis: This species is most closely related to *N. pugionis* sp. n. and *N. capensis*, from which it differs by having the high prominences of the posterior part of the elytra bearing trichomes opposite the abdominal prominences.

Description: Body dark reddish brown, elytra lighter, 2.19–2.34 mm long and 0.97–1.03 mm wide, head 1.0–1.1 times as long as wide and about as long as pronotum, with rough reticulate surface, frontal rostrum roundly acute, clypeus clearly visible dorsally, tempora slightly convergent, with 4 macrosetae at sides; antennae long, terminal antennomere subcylindrical, 4.0–4.7 times as long as wide, antennomere III weakly thickened distally; pronotum transverse, 1.2–1.4 times as wide as long, with 6 or 7 macrosetae on sides, longitudinal sulcus well-defined, posterior part of elytra with high prominence bearing trichomes opposite abdominal prominence, disc smooth, shiny; abdomen long, smooth and shiny, humeri with 6 or 7 macrosetae; lateral processes on composite tergum large, elongate, depressed at tip, rugose and bicarinate; triangular tooth of mesofemora moderate in size, normally developed with shallow groove from middle to apex, sharp, acute spine of mesotibiae located close to apex.

Holotype: ♂ [lacking aedeagus and both mesotibiae] '[blue label] [h] Pirie mt. [nr King William's Town, 32°47'S:27°13'E], Peringuey, nids de *Crematogaster peringuyei* / [red label] [p] TYPE / [blue label] [p] MUSEUM PARIS, 1917, COLL. A. RAFFRAY / [h] F. gibbiventris [p] A. Raffray det. / [red ink] [p] HOLOTYPE, *Fustigerodes gibbiventris* Raffray, P. Hlaváč des. 2006' (MNHN).

Other material examined: SOUTH AFRICA: 1♀ 'Afrique austr. / [blue label] Museum Paris, 1917, coll. A. Raffray / *F. gibbiventris* A. Raffray det.' (MNHN); *Western Cape*: 1♀ 'South Africa, Western Cape, Knysna env., Tsitsikamma, 33°59.3'S:23°32.8'E, at sea level, 29.i.[20]04, Hlaváč lgt. / sifted litter' (CPH); 21♂ 6♀ 'South Africa, Western Cape, Knysna env., 300 m, 34°03.5'S:23°14'E 01.ii.[20]04, Hlaváč lgt. / under bark / HOST ANT: *Tetramorium weitzeckeri* Emery subsp. *ebeninum* Arnold, B. Taylor det., 2004' (CPH); 3♂ 3♀ 'SOUTH AFRICA: Western Cape: Gouna S. F., 0.5 km WNW Grootdraai Picnic Area, off Outeniqua Tr., 360 m, 33°56.6'S:23°02.9'E / 31.i.–24.ii. 2004, afromontane forest w/lianas & ground ferns, FMHD #2004-025, flight intercept trap, Newton, Thayer, Solodovnikov 1082' (FMNH); 1♂ '[p] SOUTH AFRICA: Western Cape: Gouna S.F., Kom Se Pad, 6.2 km W Hwy R339, 440 m, 33°56.7'S:23°05.6'E / 31.i.–24.ii. 2004, afromontane forest w/ ground ferns, few lianas, FMHD #2004-028, flight intecept trap, Solodovnikov, Newton et al. 1083' (FMNH); 1♂ 'S Africa S Cape, Knysna Forest, 33.56°S:23.08°E [33°56'S:23°08'E] / 19.xi.[19]73, E-Y 271, sifted litter, leg. Endrödy-Younga' (TMSA); 1♂ 'S Africa Cape Prov., Groenkop,



Figs 18, 19. Heads and pronota of *Novoclaviger* species: (18) *N. gibbiventris*, (19) *N. joncooteri*.

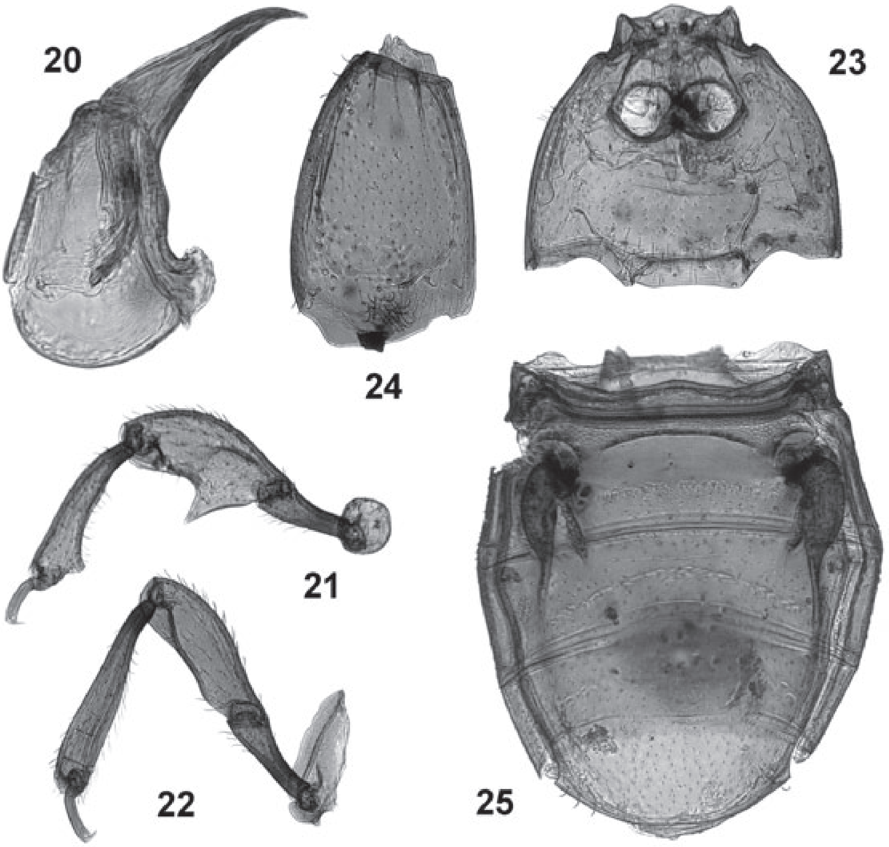
33.57°S:23.33°E [33°57'S:23°33'E] / ix.1984, litter, leg. J. Koen' (TMSA); *Eastern Cape*: 1♂ 'S Africa: S Cape Prov., Tsitsikamma, Lottering, 33.56°S:23.40°E [33°56'S:23°40'E] / 12.xii.[19]97, E-Y 1419, forest floor litter, leg. Endrödy-Younga' (TMSA); 3♂ 4♀ 'Cape Prov., Humansdorp distr. Wit Els Bos [Witelsbos], 20 km E from Storms R. [34°00'S:24°06'E], i.1961' (MRAC, MNHN); 2♂ 'SOUTH AFRICA: Eastern Cape, Tsitsikamma N. P., Blue Duiker Tr., ca. 2.5 km W Storms R. Mouth, 100 m, 34°01.05'S:23°52.66'E / 29.i.2004, tall coastal forest, FMHD # 2004-018, berl., leaf & log litter, Newton, Thayer et al. 1079' (FMNH).

Novoclaviger joncooteri sp. n.

Figs 5, 19–25, 36

Etymology: Named after my friend Jonathan Cooter, Hereford, who arranged the loan of this species to me, and who is always ready to help me with manuscript drafts of my papers.

Differential diagnosis: This species is most closely related to *N. capensis*, from which it differs by having a well-defined longitudinal sulcus on the pronotum, the abdomen wider than the elytra, a larger triangular tooth of the mesofemora. it differs further from *N. majusculus* by the different shape of the mesofemora.



Figs 20–25. Details of *Novoclaviger joncooteri*: (20) aedeagus, lateral aspect; (21) middle leg; (22) hind leg; (23) meso- and metacoxae; (24) elytron; (25) abdomen.

Description: Body reddish brown, about ♂ 2.31–2.46 mm, ♀ 2.55 mm long and ♂ 0.96–0.98, ♀ 0.95 mm wide, head 1.06–1.09 times as long as wide and slightly shorter than pronotum, with rough, reticulated surface, frontal rostrum roundly acute, clypeus clearly visible dorsally, tempora slightly convergent, with 4 macrosetae at sides; antennae shorter, terminal antennomere conical, 3.63–3.75 times as long as wide, antennomere III weakly thickened distally; pronotum about 0.88–1.13 times as wide as long, with 6 or 7 macrosetae on sides, longitudinal sulcus well-defined, posterior part of elytra with high prominences bearing trichomes opposite abdominal prominences, disc smooth, shiny; abdomen smooth and shiny, humeri with 6 or 7 macrosetae; lateral processes on composite tergum large, elongate, depressed at tip, rugose and bicarinate; triangular tooth of mesofemora large, occupying almost half of femoral length, mesofemora swollen with large deep groove extending from middle to apex, sharp, acute spine of mesotibiae located farther from apex.

Holotype: ♂ '[p] South Africa, Western Cape, Swartberg Pass, 33°21'07"S:22°02'46"E, 5.ix.2003, under rock / *Crematogaster* (*Decacrema*) *liengmei* (Forel), B. Taylor det. 2005 / [red label] [p] HOLOTYPE *Novoclaviger joncooteri* sp. n., P. Hlaváč det., 2006' (TMSA).

Paratypes: 3♂ 1♀ same data as holotype (OXUM, CPH). All specimens bear the following red label: '[p] PARATYPE *Novoclaviger joncooteri* sp. n., P. Hlaváč det., 2006'.

Note: One ♂ paratype lacks a head and is mounted intact in Euparal.

Novoclaviger majusculus (Péringuey, 1888), **comb. n.**

Fig. 37

Commatocerus majusculus: Péringuey 1888: 84.
Fustigerodes majusculus (Péringuey): Raffray 1897: 118; Wasmann 1925: 235, 236, fig. 1.
Fustigerodes (s. str.) *majusculus* (Peringuey): Jeannel 1964: 208, fig. 307 (aedeagus).

Differential diagnosis: This species is most closely related to *N. joncooteri* sp. n., from which it differs by having a more prominent, acute rostrum, reticulate structure over the whole surface of the head, and a slightly smaller triangular tooth on the mesofemora.

Description: Body from reddish brown to dark brown, about ♂ 2.60–2.68 mm, ♀ 2.55–2.58 mm long and ♂ 1.08–1.13, ♀ 1.02–1.03 mm wide, head 1.08–1.16 times as long as wide and slightly shorter than pronotum, with rough reticulation over whole surface, frontal rostrum acute, prominent at the middle, clypeus clearly visible dorsally, tempora slightly convergent; antennae long, terminal antennomere conical, 3.70–3.85 times as long as wide, antennomere III weakly thickened distally; pronotum about 1.05–1.15 times as wide as long, with about 12 macrosetae on sides, longitudinal sulcus well-defined, posterior part of elytra with high prominence bearing trichomes opposite abdominal prominence, disc smooth, shiny; abdomen long, smooth and shiny, humeri with 6 or 7 macrosetae; lateral processes on composite tergum large, elongate, depressed at tip, rugose and bicarinate; triangular tooth of mesofemora large, occupying almost half of femoral length, mesofemora normal, with shallow groove from middle to apex; with obtuse large spine of mesotibiae located longer distance from apex.

Holotype: ♂ SOUTH AFRICA: *Western Cape*: '[blue label] [h] Newland, Cape Town [33°58'S:18°29'E] / [h] Cap, Bonne Esp. / [red label] [p] TYPE / [blue label] [p] MUSÉUM PARIS, 1917, COLL. A. RAFFRAY / [h] F. *majusculus* [p] A. Raffray det. / [h] *Fustigerodes majusculus* / [red ink] [p] HOLOTYPE, *Novoclaviger majusculus* (Péringuey), P. Hlaváč des., 2006' (MNHN).

Other material examined: SOUTH AFRICA: *Western Cape*: 1♂ 'Cap, Bonne Esp. [Cape Town] / [blue label] MUSÉUM PARIS, 1917, COLL. A. RAFFRAY / *F. majusculus* A. Raffray det.' (MNHN); 1♀ 'CBS [? Caput Bonae Spei = Cape of Good Hope] / [blue label] MUSÉUM PARIS, 1917, COLL. A. RAFFRAY / *F. majusculus* A. Raffray det.' (MNHN); 1♂ 'Capetown, 26.x.1919 /♂ / *majusculus* Péring., C. Andreae /

Fustigerodes majusculus Per.' (TMSA); 1♂ 1♀ 'Cape Province, Simona Town [Simon's Town, 34º12'S:18º26'], 12–20.iv.1915, Dr. M. Cameron / *Novoclaviger majusculus* Pér. Cl. Besuchet, det. 2001' (MHNG).

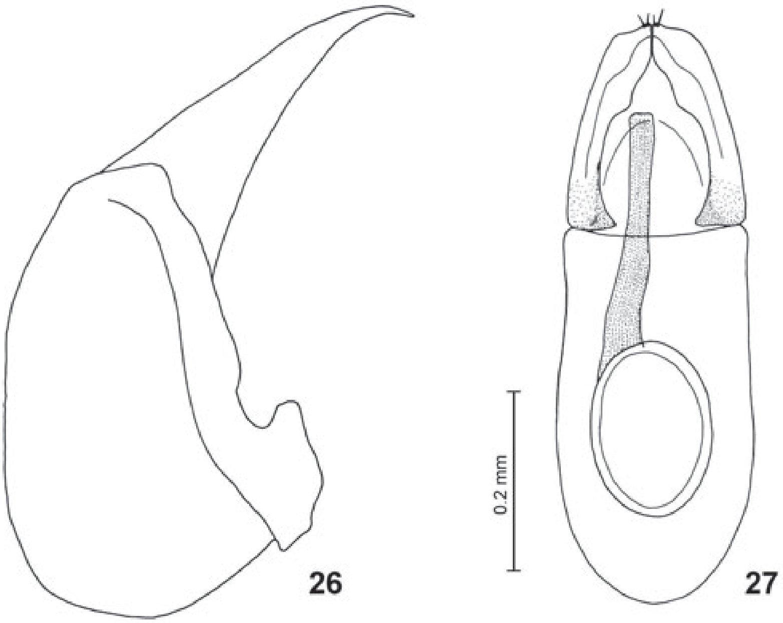
Novoclaviger pugionis sp. n.

Figs 26, 27, 36

Etymology: From Latin *pugio* (dagger), referring to the large dagger-like tooth on the mesofemora.

Differential diagnosis: This species is most closely related to *N. capensis*, from which it differs by having a well-defined longitudinal sulcus on the pronotum, abdomen broader than elytra, and a larger triangular tooth on the mesofemora.

Description: Body light reddish brown, about 2.58 mm long and 1.13 mm wide, head 1.21 times as long as wide and about as long as pronotum, roughly reticulate surface at base but evanescent on rostrum, frontal rostrum acute, prominent at the middle, clypeus clearly visible dorsally, tempora slightly convergent, with 4 macrosetae at sides; antennae long, terminal antennomere subcylindrical, 4.15 times as long as wide, antennomere III weakly thickened distally; pronotum about 1.07 times as wide as long, with 6 or 7 macrosetae on sides, longitudinal sulcus well-defined, posterior part of elytra simple, with a few short setae opposite abdominal prominences, disc smooth, shiny, matt; abdomen long, smooth and shiny, humeri with 6 or 7 macrosetae; lateral processes on composite tergum large, elongate, depressed at tip, rugose and bicarinate; triangular tooth of mesofemora large, occupying almost half of femur length, mesofemora swollen with large and deep groove from middle up to apex, obtuse, large spine of mesotibiae located farther from apex.



Figs 26, 27. *Novoclaviger pugionis*, aedeagus, lateral and dorsal aspects.

Holotype: ♂ SOUTH AFRICA: *Western Cape*: '[p] S Africa, SW Cape Prov., [nr Paarl] Hawequas Mt. 1350 m, 33.40°S:19.05°E / 26.x.1978, E-Y, 1480, singled in day, leg. Endrödy-Younga. / [red label] [p] HOLOTYPE *Novoclaviger pugionis* sp. n., P. Hlaváč det., 2006' (TMSA).

Novoclaviger reticulatus sp. n.

Fig. 36

Etymology: The name is derived from the reticulate structure of the elytra.

Differential diagnosis: This species can be separated easily from all known *Novoclaviger* species by the matt, reticulate microsculpture of the elytra and abdomen.

Description: Body dark reddish brown, about 2.71 mm long and 1.09 mm wide, head 1.13 times as long as wide and about as long as pronotum, with very roughly reticulate surface, frontal rostrum roundly acute, clypeus clearly visible dorsally, tempora slightly convergent, with 4 macrosetae at sides; antennae long, terminal antennomere subcylindrical, 4.24 times as long as wide, antennomere III weakly thickened distally; pronotum about 1.2 times as wide as long, with 6 or 7 macrosetae on sides, longitudinal sulcus absent; posterior part of elytra with high prominences bearing trichomes opposite abdominal prominences, disc with reticulate microsculpture, matt; abdomen also matt with reticulate microsculpture, humeri with 6 or 7 macrosetae; lateral processes on composite tergum large, elongate, depressed at tip, rugose and bicarinate.

Holotype: ♀ SOUTH AFRICA: *Eastern Cape*: '[p] S Africa, Transkei, Port St. Jones [Johns], Silaka, 31.33 S - 29.30 E [31°33'S:29°30'E] / [p] 28.xi.1987, E-Y: 2539, beating indig. for., leg. Endrödy-Younga / [red label] [p] HOLOTYPE *Novoclaviger reticulatus* sp. n., P. Hlaváč det., 2006' (TMSA).

The *wroughtoni* group

Diagnosis: Smaller species, body length 1.55–1.87 mm, composite tergum with lateral fringe of basal impression very large, close to paratergites, processes smaller and simple.

Species included: *Novoclaviger wroughtoni*.

Novoclaviger wroughtoni (Wasmann, 1894)

Fig. 38

Fustigerodes (*Novoclaviger*) *wroughtoni*: Wasmann 1894: 215.
Novoclaviger wroughtoni (Wasmann): Raffray 1897: 119.
Fustigerodes (*Novoclaviger*) *wroughtoni* Wasmann: Jeannel 1964: 208, figs 305, 308 (habitus and aedeagus).

Differential diagnosis: This species can be separated easily from all known species of *Novoclaviger* by the composite tergum with a large basal impression, and with the lateral fringe very close to the paratergites.

Description: Body reddish yellow, 1.7–1.87 mm long and 0.67–0.71 mm wide, head about as long as pronotum, with rough reticulate surface, frontal rostrum roundly acute, tempora parallel, with 4 macrosetae at sides; antennae long, terminal antennomere subcylindrical, 4.4–4.6 times as long as wide, antennomere III weakly thickened distally; pronotum 1.6–1.7 times as wide as long, with 6 or 7 macrosetae on sides, longitudinal sulcus present but ill-defined; posterior part of elytra with bunch of setae opposite to abdominal prominences, disc of elytra and abdomen smooth, humeri with 6 or 7 macrosetae; lateral processes on composite tergum smaller, upper part rounded, flat, lacking any trace of carinae.

Lectotype (here designated): ♂ [lacking aedeagus and left antenna] '[h] Delagoa-Bay, Wroughton / [h] b. *Acantholepis capensis* Mayr / [h] *Novoclaviger wroughtoni* Wasm. type / [red label] [p] TYPE / [blue label] [p] MUSEUM PARIS, 1917, COLL. A. RAFFRAY / [h] *F. wroughtoni* [p] A. Raffray det. / [p] LECTOTYPE, *Fustigerodes* (*Novoclaviger*) *wroughtoni* Wasmann, P. Hlaváč des., 2006' (MNHN).

Note: Other syntypes (2♂ 2♀) were not available for the study. The type locality Delagoa Bay [Mozambique] given by Wasmann seems to be wrong, and it has been corrected to Natal by Raffray (1897: 120).

Other material examined: SOUTH AFRICA: *Eastern Cape*: 5♂ 5♀ 'Eastern Cape, Tsitsikamma N. P., Blue Duiker Tr., ca. 2.5 km W Storms R. mouth, 100 m, 34°01.05'S:23°52.66'E / 29.i.2004, tall coastal forest; FMHD # 2004-018, berl., leaf & log litter, Newton, Thayer et al. 1079, FIELD MUSEUM NAT. HIST.' (FMNH, CPH); 2♂ 'Eastern Cape, Tsitsikamma N. P., Blue Duiker Tr., ca. 2.5 km W Storms R. mouth, 100 m, 34°01.05'S:23°52.66'E / 29.i.2004, tall coastal forest, FMHD # 2004-019, berl., stream-edge litter, Clarke, Solodovnikov, Thayer 1079' (FMNH); 1♀ 'S Cape Prov., Tsitsikama, Witelsb[os]., 33.58°S:24.02°E [33°58'S:24°02'E] / 10.xii.1978, E-Y: 1529, sifted forest litter, leg. Endrödy-Younga' (TMSA). *Western Cape*: 4♂ 2♀ 1 ex. 'S Cape, Garden of Eden, 34.02°S:23.12°E [34°02'S:23°12'E] / 13.xii.1976, E-Y: 1310, sifted litter, leg. Endrödy-Younga' (TMSA); 3♂ 1♀ 'S Cape, Knysna forest, 33.56°S:23.08°E [33°56'S: 23°08'E] / 19.xi.1973, E-Y: 271, sifted litter, leg. Endrödy-Younga' (TMSA); 3♂ 'S Cape, Harkerville Forest, 34.04°S:23.10°E [34°04'S:23°10'E] / 14.xii.1976, E-Y: 1312, Podocarp. for. litt., leg. Endrödy-Younga' (TMSA); 2♂ 'Western Cape: Harkerville S. F., 3 km N Kranshoek Picnic Area, 220 m, 34°03.5'S:23°13.99'E, 1–25.ii.2004 / 2nd growth afromontane forest; FMHD # 2004-031, flight intercept trap, Solodovnikov, Newton et al. 1084' (FMNH); 2♂ 'Western Cape, Knysna env. Tsitsikamma, 33°59.3'S:23°32.8'E, at sea level, 29.i.04, Hlaváč lgt. / under bark ant nest / HOST ANT: *Tetramorium weitzeckeri* Emery subsp. *ebeninum* Arnold., B. Taylor det., 2004' (CPH).

Novoclaviger sp.

Fig. 38

Material examined: SOUTH AFRICA: *KwaZulu-Natal*: 'St Lucia, at sea level, 28°23.2'S:32°24.3'E, 7–8.ii.2004, Hlaváč lgt. / under bark / HOST ANT: *Tetramorium weitzeckeri* Emery subsp. *ebeninum* Arnold., B. Taylor det., 2004' (CPH).

Note: This specimen seems to represent a new species that is very closely related to *N. wroughtoni*. It is much smaller, only 1.56 mm long and 0.6 mm wide, and the terminal antennal segment is shorter, only 0.34 mm long and about 4.7 times as long as wide. Since only one specimen is available, I postpone describing it as a new species until more material is collected.

Host ant: *Tetramorium* (*X.*) *weitzeckeri* Emery, 1895.

Genus *Pararticerus* Jeannel, 1955

Pararticerus Jeannel, 1955: 179; 1964: 206; Coulon 1982: 51; Besuchet 1986: 263 (synonymy of *Pararticerus* with *Articerodes*).

Diagnosis: Head about as long as wide or slightly longer, shorter than pronotum, frontal rostrum prominent, clypeus broadly arcuate, clearly visible in dorsal view; antennae with 4 antennomeres, first two minuscule, third weakly thickened distally, much longer than antennomere II, terminal antennomere conical, thickened distally; pronotum wider than long, median antebasal fovea present; elytra with 8 or 9 elongate lines formed from suberect setae, posterior part with trichomes opposite trichomes on edge of basal impression of composite tergum, first visible paratergites with large trichomes; mesofemora and tibiae with spines or spurs in males.

Sexual dimorphism: Females are larger, and with mesofemora and tibiae simple, lacking spines or spurs.

Notes: The genus *Articerodes* was erected by Raffray for *A. syriacus* de Saulcy, described from Saida in Lebanon (de Saulcy 1865). Eight species have been placed in the genus: two species from Japan, one each from India and Sumatra, four species from Africa, and the type species *A. syriacus*, which is widely distributed in the Palaearctic region, having been recorded from Lebanon, Syria, Iran, Tadjikistan, Uzbekistan, Greece (Crete) and Ethiopia (Jeannel 1955). Such a wide distribution is unusual for Clavigeritae, which are normally restricted to relatively small areas, and show a high degree of endemism. In South Africa only one species, *A. latus* Raffray, is known. Jeannel erected the new genus *Pararticerus* Jeannel (1955) for this species, seeing differences between this species and *A. syriacus*. The genus was later synonymised under *Articerodes* by Besuchet (1986). I think that *A. latus* is not congeneric with *A. syriacus* and cannot be placed in the same genus. It differs from *Articerodes* by the generally wider body, by having antennomere III much longer than II and by the presence of trichomes on the edge of the basal impression of the composite tergum, just behind the elytral trichomes.

Key to the species of *Pararticerus*

1 Larger species, 1.7–1.9 mm long, mesofemora with single, small, sharp spine, apical spur of mesotibia located in apical third .... **latus** Raffray

– Smaller species, about 1.6 mm long, mesofemora (Fig. 30) with two large, obtuse spines, inner one larger, apical spur of mesotibiae located very close to apex .... **ruthae** sp. n.

Pararticerus latus (Raffray, 1910)

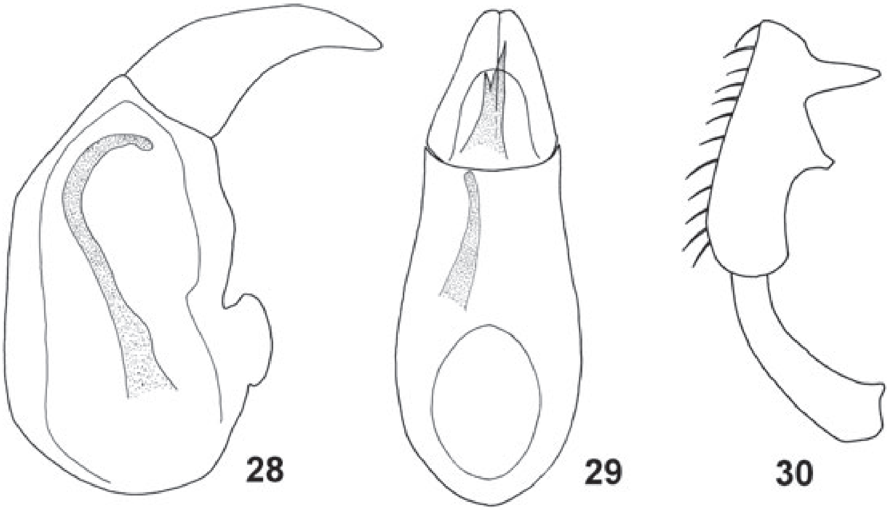
Figs 6, 39

Articerodes latus: Raffray 1910: 421.
Fustigerodes andreaei Wasmann, 1925: 237; Coulon 1983: 288 (synonymy).
Pararticerus latus (Raffray): Jeannel 1955: 179; 1964: 206, figs 301, 302.

Differential diagnosis: This species can be separated easily from *P. ruthae* sp. n. by the presence of a single small, sharp spine on the mesofemora, and by a different, more distant location of the apical spur of the mesotibia, as well as by the different form of the aedeagus (Coulon 1983: 288, fig. 2).

Description: Body reddish brown, elytra lighter, about 1.7–1.9 mm long and 0.8–0.9 mm wide, head about 1.1–1.15 times as long as wide and about as long as pronotum, with rough reticulate surface, tempora slightly convergent; terminal antennomere conical, 4.25–4.45 times as long as wide at apex and 3.55–3.9 times as long as III; pronotum about 1.10–1.25 times as wide as long, with about 8 macrosetae on sides, longitudinal sulcus shallow but well-defined, borne in large median antebasal fovea; elytra shiny, with 8 or 9 elongate lines formed from suberect setae; abdomen shiny, with minuscule, sparse setation; mesofemora with single, small and sharp spine, mesotibiae with spur in apical third.

Material examined: SOUTH AFRICA: *KwaZulu-Natal*: 5♂ 16♀ 'Natal Midlands, Northington [Nottingham], 1420 m, 29.28°S:30.01°E [29°28'S:30°01'E] / 12.xii.1989, E-Y: 2764, sifted forest litter, Endrödy & Klimaszew[ski]' (TMSA, CPH); 1♀ 'Natal Midlands, Karkloof for[est]. 1300 m, 29.18°S:30.13°E [29°18'S:30°13'E] / 5.xii.1989, E-Y: 2745, sifted forest litter, Endrödy & Klimaszewski' (TMSA); 1♀ 'S Natal, Weza, Ingeni forest, 30.32°S:29.41°E [30°32'S:29°41'E] / 28.viii.1989, E-Y: 2672, litter under bushes, Endrödy & Klimaszewski / ground traps with faeces bait' (TMSA); 1♀ 'S Natal, Weza, Impetyene forest, 30.37°S:29.42°E [30°37'S:29°42] / 16.xi.1989, E-Y: 2682, forest floor litter, Endrödy & Klimaszewski' (TMSA); 1♀ 'S Natal, Weza, Impetyene grassveld, 30.37°S:29.42°E [30°37'S:29°42'E] / 16.xi.1989, E-Y: 2680, intercept trap, 12 day, Endrödy & Klimaszewski' (TMSA); 1♂ 'S Natal, Weza, Impetyene grassveld, 30.37°S:29.42°E [30°37'S:29°42'E] / 25.xi.1989, E-Y: 2717, flowering grassveld, Endrödy & Klimaszewski' (TMSA); 2♂ 2♀ 'KwaZulu-Natal, Ntendeka Wilderness Area, Ngomi [Ngome] Forest, 27.51°S:31.23°E [27°51'S:31°23'E],



Figs 28–30. Details of *Pararticerus ruthae*: (28, 29) aedeagus, lateral and dorsal aspects; (30) mesofemur and mesotibia.

24–27.xi.2006, J. Janák lgt.' (CPH); *Eastern Cape*: 2♂ 'Cape, Amatole, Isidenge For. St., 32.41°S:27.15°E [32°41'S:27°15'E] / 18.xi.1987, E-Y: 2524, grass tussocks, leg. Endrödy-Younga' (TMSA, CPH).

Pararticerus ruthae sp. n.

Figs 28–30, 39

Etymology: Named after Ruth Müller, curator of Coleoptera at the Transvaal Museum, Pretoria, who was always ready to help me with many aspects of this study.

Differential diagnosis: This species can be separated easily from *P. latus* by the presence of two larger spines on the mesofemora, by the apical spur of the mesotibiae being located very close to the apex, as well as by the different shape of the aedeagus.

Description: Body reddish brown, elytra and abdomen lighter, about 1.6 mm long and 0.75 mm wide, head about as long as wide and slightly shorter than pronotum, with roughly reticulate surface, tempora slightly convergent with few erect setae; terminal antennomere conical, about 3.6 times as long as wide as at apex, about 3.9 times as long as III; pronotum about 1.1 times as wide as long, with about 8 macrosetae on sides, longitudinal sulcus absent, median antebasal fovea present; abdomen shining, with minuscule, sparse setation; mesofemora (Fig. 30) with two large, obtuse spines, inner one larger, mesotibia with apical spur located close to apex.

Holotype: ♂ SOUTH AFRICA: *Mpumalanga*: '[p] S Africa, E Transvaal, Blyde River Canyon, 24.35 S - 30.49 E [24°35'S:30°49'E] / [h] 5 [p].v.1981, E-Y: 1779, sifted litter, bush, leg. Endrödy-Younga / [red label] [p] HOLOTYPE *Pararticerus ruthae* sp. n., P. Hlaváč det., 2006' (TMSA).

Paratypes: 2♂ same data as holotype (TMSA—preparation on slide, CPH).

Genus *Villofustiger* Leleup & Célis, 1968

Villofustiger: Leleup & Célis 1968: 409.

Diagnosis: Head narrow, distinctly shorter than pronotum, frontal rostrum rounded, clypeus visible in dorsal view; antennae with three antennomeres, first minuscule, antennomere II short, terminal antennomere cylindrical and very long; pronotum spherical with median antebasal fovea well-defined; elytra short, posterior part with trichomes opposite trichomes on edge of basal impression of composite tergum, first paratergites also with trichomes.

Villofustiger gibbiceps Leleup & Célis, 1968

Figs 7, 34

Villofustiger gibbiceps: Leleup & Célis 1968: 411, figs 1–3.

Holotype: SOUTH AFRICA: *Western Cape*: '[p] ♂ / [h] Afrique du Sud, Cap – Cedarberg (Nord) [nr Clanwilliam], juillet [vii] 1962, J. et N. Leleup / [h] Fourmi – hôte, *Monomorium* sp., Det Bolton / [red label] [p] HOLOTYPUS / [p] N. Leleup det., 196 [h] 8, *Villofustiger gibbiceps*, gen. nov. – sp. n. / Edéage prep. Micr. 68. TMSA'.

Genus **Zuluclavodes** gen. n.

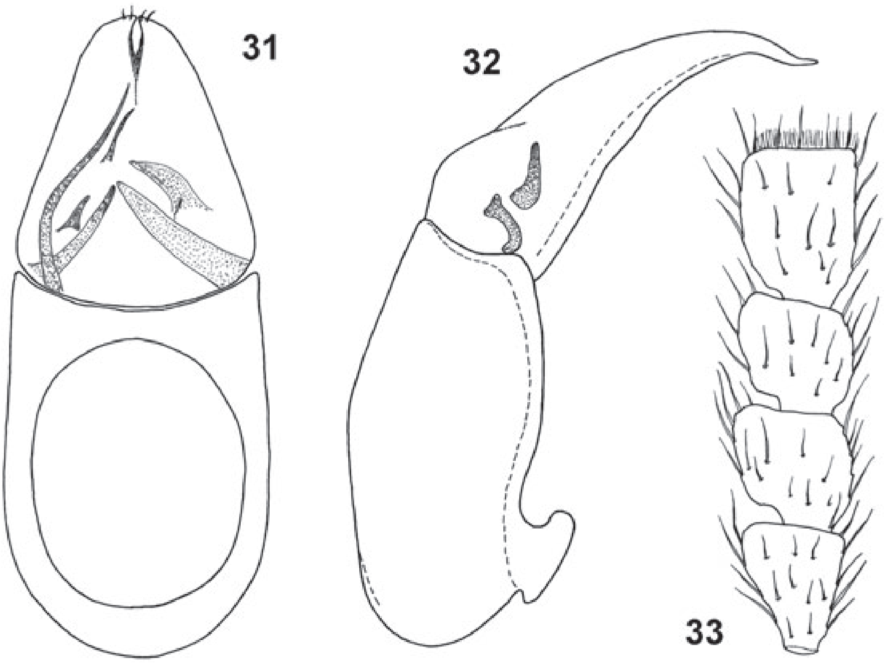
Etymology: The name is a combination of 'Zulu', from the province of KwaZulu-Natal, South Africa, and '*clavodes*' to indicate the close relationship of this genus to *Gericlavodes* Jeannel, 1960 from tropical Africa. Gender masculine.

Type species: *Zuluclavodes briantaylori* sp. n.

Diagnosis: Head rhombic, clearly longer than wide, with 6 antennomeres, apical antennomere short, only about 1.5 times as long as antennomere V, antennomeres III–V subequal in size, antennomere II much shorter; pronotum slightly longer than wide, lacking median and lateral foveae; head, pronotum and elytra rugose and pubescent; composite tergum with smaller basal impression and two large and deep basal pits adjacent to the first visible paratergites, shiny, with sparse, shorter erect setae, apex of elytra with trichome opposite trichome on composite tergum, first paratergite bearing fine trichomes.

Description: Length 2.15–2.38 mm, head rhombic, slightly rugose and pubescent, longer than wide, maximum width across eyes, with obtuse frontal rostrum, vertexal foveae well-defined just behind eyes, eyes large, prominent, clypeus large, on sides visible dorsally; head separated from neck by occipital carina; antennae 6-segmented, with 4-segmented club (Fig. 33), apical antennomere short, truncate at apex, only about 1.5 times as long as antennomere V, antennomeres III–V subequal in size, antennomere II much shorter, scape minuscule, not visible dorsally; pronotum slightly longer than wide and slightly longer than head, lacking median and lateral antebasal foveae, slightly rugose and pubescent; elytra slightly rugose and pubescent, each with a tiny median carina extending from base to apical third of elytra, distinctly shorter than abdomen, posterior part of elytra with trichome opposite trichome on composite tergum, first paratergite also bearing fine trichomes; abdomen broader than elytra, slightly wider than long, rounded in posterior and lateral margins, composite tergum with smaller, strongly concave basal basin and two large and deep basal pits adjacent to the first visible paratergites, shiny, with sparse, shorter erect setae; legs short and thick, mesofemora and mesotibiae in male always with spines.

Ventral side: Head rectangular, with two well-defined foveae, close to another, located behind eyes, eyes clearly visible ventrally; mesosternum small; metasternum large, shining with sparse short pubescence, strongly depressed between metacoxae which are very widely separated, metasternal depression in shape of triangle; median line of



Figs 31–33. Details of *Zuluclavodes briantaylori*: (31, 32) aedeagus, dorsal and lateral aspects; (33) last four antennomeres of right antennae.

gold-coloured erect setae present on whole length of mesosternum and metasternum; fourth and fifth sternites subequal in length.

Aedeagus (Figs 31, 32): Strongly sclerotised, with sharply pointed apical lobe, basal capsule large and bulbous in basal part, about as long as apical lobe.

Sexual dimorphism: Females lack spines on mesofemora and mesotibiae, metatibiae also lacking comb of setae in females.

Comparison: *Zuluclavodes* is placed in the Clavigerini with 6-segmented antennae, and is most similar to *Gericlavodes*. It differs from that genus by having (1) a 4-segmented antennal club, (2) a straight, apically obtuse rostrum, (3) well-defined trichomes on the posterior margin of elytra, and (4) two large and deep basal pits adjacent to the first visible paratergites. *Zuluclavodes* also resembles *Clavigerodes* Raffray, 1877 and *Pseudoclavigerodes* Reichensperger, 1915 but differs from both by having 6 rather than 5 antennomeres.

Zuluclavodes briantaylori sp. n.

Figs 31–33, 35

Etymology: Named after my friend Brian Taylor, Nottingham, who is always ready to help me with the identification of African ants.

Description: Length ♂ 2.15–2.23, ♀ 2.19–2.38, maximum width in the middle of abdomen, ♂ 0.88–0.93, ♀ 0.86–0.95, about 1.25 times as long as wide; antennae (Fig. 33) with antennomere III about twice as long as II, apical antennomere short, truncate at apex, only about 1.5 times as long as wide and as long as antennomere V, antennomeres III–V subequal in size; pronotum slightly longer than wide, pronotal length/width ratio: 1.05–1.17; elytra about 1.3 times as long as pronotum and about 0.7 times as long as abdomen; mesofemora with sharp, outwardly bent tooth located close to base, mesotibia with smaller thorn located in apical third, metatibia with comb of setae in the middle; aedeagus as in Figs 32, 33.

Sexual dimorphism: All legs of females simple, lacking spines on mesofemora and mesotibiae, metatibiae lacking comb of setae present in males, with only simple, sparse setation.

Holotype: ♂ SOUTH AFRICA: *KwaZulu-Natal*: '[p] S Africa, Zululand, Dukuduku For[est]. Sta[tion]., 28,22°S:32,19°E [28°22'S:32°19'E] / [p] 2.iv.1974, E-Y: 312, wet forest litter, leg. Endrödy-Younga / [red label] [p] HOLOTYPE *Zuluclavodes briantaylori* sp. n., P. Hlaváč det., 2006' (TMSA).

Paratypes: 3♂ 5♀ same data as holotype; 1♀ SOUTH AFRICA: *KwaZulu-Natal*: '[p] S Africa: KwaZulu-Natal, Kosi Bay forest, [26°58'S:32°50'E] / [p] 12.xi.2002, E-Y: 3529, sifting, Burger, Harrison, Müller'. 1♀ MOZAMBIQUE: *Inhambane Prov.*: '[p] S Africa Mozambique, Pomene, 22.59°S:35.35°E [22°59'S:35°35'E] / [p] 4.v.1975, E-Y: 355, litt. in coast humm. Leg. A. Strydom'. All bearing the following red label '[p] PARATYPE *Zuluclavodes briantaylori* sp. n., P. Hlaváč det., 2006' (TMSA, FMNH, CPH).

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REFERENCES

Besuchet, C. 1986. Synonymes et homonyme nouveaux de quelques genres de Psélaphides (Coleoptera). *Revue Suisse de Zoologie* **93** (1): 257–264.

———1991. Révolution chez les Clavigerinae. *Revue Suisse de Zoologie* **98** (3): 499–515.

Coulon, G. 1982. Sur quelques Clavigérines afrotropicaux. Remarques diverses, notes synonymiques et description de deux genres nouveaux (Coleoptera Pselaphidae). *Bulletin et Annales de la Société Royale d'Entomologie de Belgique* **118**: 49–72.

———1983. A propos de *Fustigerodes andreaei* Wasmann, 1925 (Coleoptera Pselaphidae Clavigerinae). *Bulletin et Annales de la Société Royale d'Entomologie de Belgique* **118** (1982): 287–288.

Jeannel, R. 1955. Les Psélaphides de l'Afrique australe. *Mémoires du Muséum National d'Histoire Naturelle, Paris, Série A, Zoologie* **9**: 1–196.

———1964. Révision des Psélaphides de l'Afrique australe: 23–217. *In*: *The humicolous fauna of South Africa. Pselaphidae and Catopidae* (*Coleoptera*) (*N. Leleup expedition 1960–1961*). *Scientific Results. Transvaal Museum Memoirs* **15**: 1–261.

Leleup, N. & Célis, M.J. 1968. Contributions à l'étude des Coléoptères Psélaphides de l'Afrique. 3. Description d'un genre nouveau et d'une espèce inédite de Clavigerinae d'Afrique du Sud. *Bulletin et Annales de la Société Royale d'Entomologie de Belgique* **104**: 409–412.

Péringuey, L. 1888. Second contribution to the South-African coleopterous fauna. *Transactions of the South African Philosophical Society* **4** (2): 67–195.

RAFFRAY, A. 1887. Psélaphides nouveaux ou peu connus. Troisième mémoire. *Revue d'Entomologie* **6**: 18–56, pls 1, 2.

———1890. Étude sur les Psélaphides. V. Tableaux synoptiques. Notes et synonymie. *Revue d'Entomologie* **9**: 81–172.

———1897. Descriptive catalogue of the Coleoptera of South Africa. Part IV. Family Pselaphidae. *Transactions of the South African Philosophical Society* **10**: 43–130, pls 16, 17.

———1898. Descriptive catalogue of the Coleoptera of South Africa. Part IV. Family Pselaphidae. First supplement. *Transactions of the South African Philosophical Society* **10**: 381–417, pl. 18.

———1901. Communications. *Braunsiella*, nouveau genre de Clavigérides. *Annales de la Société Entomologique de France* **1901**: 201–203.

———1905 (1904). Genera et catalogue des Psélaphides. *Annales de la Société Entomologique de France* **73**: 401–476, pls 1–3.

———1908. Coleoptera. Fam. Pselaphidae. *Genera Insectorum* **64**: 1–487, pls 1–9.

———1910. New species of South African myrmecophilous Pselaphidae (Coleoptera). *Annals of the South African Museum* **5** (8): 419–423.

REICHENSPERGER, A. 1915. Myrmecophilen und Termitophilen aus Natal und Zululand gesammelt von Dr I. Trägårdh. *Göteborgs Kungliga Vetenskaps- och Vitterhetssamhälles Handlingar* (*Fjärde följden)* **5**: 3–20.

SAULCY, F., DE. 1865. Description d'une espèce nouvelle du genre *Articerus* propre à la faune méditerranéenne et d'une espèce nouvelle de *Machaerites* propre à la faune française. *Annales de la Société Entomologique de France* (**4**) 5: 13-17.

WASMANN, E. 1894. *Kritisches Verzeichniss der myrmekophilen und termitophilen Arthropoden*. Berlin: Verlag von Felix L. Dames, pp. 231.

———1897*a*. Ein neuer *Fustigerodes* aus der Capkolonie. *Wiener Entomologische Zeitung* **16** (7): 201.

———1897*b*. Neue Myrmekophilen aus Madagascar. *Deutsche Entomologische Zeitschrift* **1897** (2): 257–285.

———1898. Ueber *Novoclaviger* und *Fustigerodes*. *Wiener Entomologische Zeitung* **17** (3): 96–99.

———1925. Zur Kenntnis der Gattung *Fustigerodes* Reitt. (Col. Pselaph.). 254. Beitrag zur Kenntnis der Myrmecophilen. *Deutsche Entomologische Zeitschrift* **1925** (3): 235–237.

APPENDIX

Annotated catalogue of South African Clavigeritae. Abbreviations: TL – type locality, HA – host ant.

Subtribe Clavigerodina Schaufuss, 1882

Commatocerodes Péringuey, 1888: 85. Type species: *Commatocerodes raffrayi* Péringuey, by original designation.

raffrayi Péringuey, 1888: 85 (*Commatocerodes*). TL: Potchefstroom, North West, South Africa; HA: *Crematogaster* (*Crematogaster*) *peringueyi* Emery, 1895. Distribution: South Africa (North West, KwaZulu-Natal).

Dejaegeria Jeannel, 1964: 212. Type species: *Dejaegeria joannae* Jeannel, by original designation.

joannae Jeannel, 1964: 213 (*Dejaegeria*). TL: Pilgrim's Rest, Graskop, Mpumalanga, South Africa; HA: *Crematogaster* (*Crematogaster*) *foraminiceps* Santschi, 1913. Distribution: South Africa (Mpumalanga).

Fustigeropsis Raffray, 1890: 164, 167. Type species: *Fustigeropsis peringueyi* Raffray, by monotypy.

peringueyi Raffray, 1887: 19 (*Commatocerus*). TL: Potchefstroom; HA: *Monomorium* (*Xeromyrmex*) *albopilosum* Emery, 1895 (det. B. Taylor 2006). Distribution: South Africa (Free State, Gauteng, North West).

= *simplex* Raffray, 1905: 455 (*Fustigeropsis*). TL: Bothaville, Free State, South Africa. **Syn. n.**

Novoclaviger Wasmann, 1894: 214. Type species: *Fustigerodes* (*Novoclaviger*) *wroughtoni* Wasmann, by monotypy.

auriculatus Wasmann, 1898: 98 (*Fustigerodes*). TL: Port Elizabeth, Eastern Cape, South Africa; HA: *Rhoptromyrmex transversinodis* Mayr, 1901. Distribution: South Africa (Eastern Cape).

braunsi Wasmann, 1897*a*: 201 (*Fustigerodes*). TL: Port Elizabeth, Eastern Cape, South Africa; HA: *Crematogaster* (*Crematogaster*) *peringueyi*, *C.* (*Decacrema*) *liengmei* Forel, 1894. Distribution: South Africa (Eastern Cape, ? Western Cape).

capensis Péringuey, 1888: 84 (*Commatocerus*). TL: Grahamstown, Eastern Cape, South Africa; HA: unknown. Distribution: South Africa (Eastern Cape).

gibbiventris Raffray, 1910: 422 (*Fustigerodes*). TL: Pirie Mission, King William's Town District, Eastern Cape, South Africa; HA: *Crematogaster* (*Crematogaster*) *peringueyi*; *Tetramorium* (*Xiphomyrmex*) *weitzeckeri* Emery, 1895. Distribution: South Africa (Western Cape, Eastern Cape) [all specimens that I have seen are from Knysna and Tsitsikamma National Parks].

joncooteri Hlaváč, **sp. n.** TL: Swartberg Pass, Port Elizabeth, Western Cape, South Africa; HA: *Crematogaster* (*Decacrema*) *liengmei* (det. B. Taylor 2005). Distribution: South Africa (Western Cape).

majusculus Péringuey, 1888: 84 (*Commatocerus*). TL: Cape Town, Western Cape, South Africa; HA: *Crematogaster* (*Crematogaster*) *peringueyi*, *Lepisiota capensis*. Distribution: South Africa (Western Cape).

pugionis Hlaváč, **sp. n.** TL: Hawequas Mt, Western Cape, South Africa; HA: unknown. Distribution: South Africa (Western Cape).

reticulatus Hlaváč, **sp. n.** TL: Silaka, Port St Jones, Eastern Cape, South Africa; HA: unknown. Distribution: South Africa (Eastern Cape).

wroughtoni Wasmann, 1894: 215 (*Fustigerodes* (*Novoclaviger*)). TL: Natal; HA: *Lepisiota capensis*, *Tetramorium* (*X.*) *weitzeckeri*. Distribution: South Africa (Western Cape, Eastern Cape, KwaZulu-Natal).

Pararticerus Jeannel, 1955: 179. Type species: *Articerodes latus* Raffray, by original designation. This genus was synonymised by Besuchet (1986: 263) and is revalidated here.

latus Raffray, 1910: 421 (*Articerodes*). TL: Pirie Mission, King William's Town District, Eastern Cape, South Africa; HA: *Crematogaster* (*Crematogaster*) *peringueyi*. Distribution: South Africa (Eastern Cape, KwaZulu-Natal).

= *andreaei* Wasmann, 1925: 237 (*Fustigerodes*). TL: Pietermaritzburg, KwaZulu-Natal, South Africa; HA: *Crematogaster* sp.

ruthae Hlaváč, **sp. n.** TL: Blyde River Canyon, Mpumalanga, South Africa; HA: unknown. Distribution: South Africa (Mpumalanga).

Villofustiger Leleup & Célis, 1968: 409. Type species: *Villofustiger gibbiceps* Leleup & Célis by original designation.

gibbiceps Leleup & Célis, 1968: 411 (*Villofustiger*). TL: Cederberg, Western Cape, South Africa; HA: *Monomorium* (*Xeromyrmex*) *fridae* Forel, 1905 (det. B. Taylor). Distribution: South Africa (Western Cape).

Zuluclavodes Hlaváč, **gen. n.** Type species: *Zuluclavodes briantaylori* Hlaváč, by original designation.
briantaylori Hlaváč, **sp. n.** TL: Dukuduku Forest, KwaZulu-Natal, South Africa; HA: unknown. Distribution: South Africa (KwaZulu-Natal), Mozambique.

Subtribe Lunillina Célis, 1969

Ischyroceros Reichensperger, 1915: 8. Type species: *Ischyroceros mirus* Reichensperger, by monotypy.
mirus Reichensperger, 1915: 8 (*Ischyroceros*). TL: Dukudu[ku], KwaZulu-Natal, South Africa; HA: *Pheidole punctatissima* Mayr, 1870. Distribution: South Africa (KwaZulu-Natal).

Subtribe Radamina Jeannel, 1954

Radamides Wasmann, 1897*b*: 261. Type species: *Radamides trifoveolatus* Wasmann, by monotypy.
natalensis Reichensperger, 1915: 6 (*Radamides*). TL: Stamford Hill, KwaZulu-Natal, South Africa; HA: *Crematogaster* (*Crematogaster*) *castanea tricolor* Gerstäcker, 1859. Distribution: South Africa (KwaZulu-Natal).

Radamira Reichensperger, 1915: 5. Type species: *Radamira traegaordhi* Reichensperger, by monotypy.
traegaordhi Reichensperger, 1915: 5 (*Radamira*). TL: KwaZulu-Natal, South Africa; HA: *Crematogaster* (*Oxygene*) *ranavalonae* Forel, 1887; *C.* (*Decacrema*) *liengmei weitzekeri* Emery, 1895. Distribution: South Africa (KwaZulu-Natal).

Subtribe Thysdariina Jeannel, 1954

Braunsiella Raffray, 1901: 201. Type species: *Braunsiella pubiventris* Raffray, by monotypy.
pubiventris Raffray, 1901: 202 (*Braunsiella*). TL: Willowmore, South Africa, Eastern Cape; HA: unknown. Distribution: South Africa (Eastern Cape).

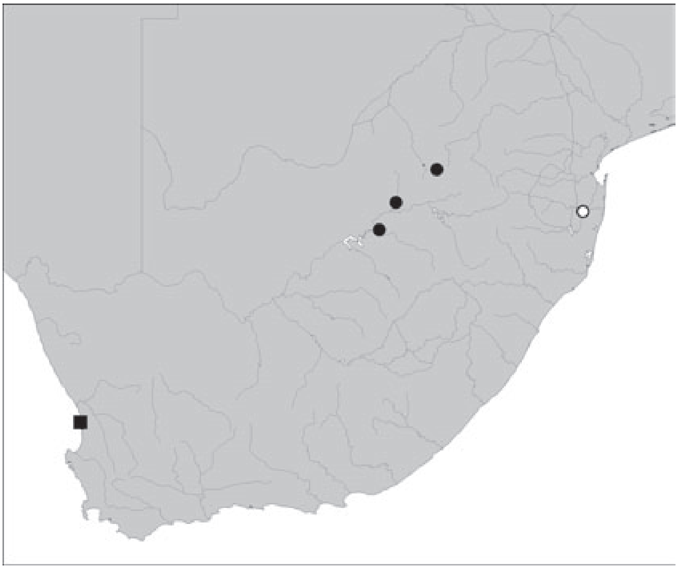

Fig. 34. Distribution of the subtribe Clavigerodina: ○ – *Commatocerodes raffrayi*; ● – *Fustigeropsis peringueyi*; ■ – *Villofustiger gibbiceps*.

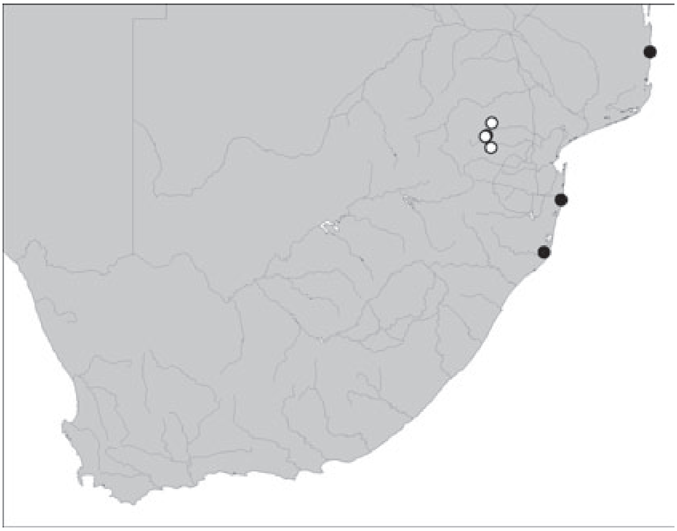

Fig. 35. Distribution of the subtribe Clavigerodina: ● – *Zuluclavodes briantaylori*; ○ – *Dejaegeria joannae*.

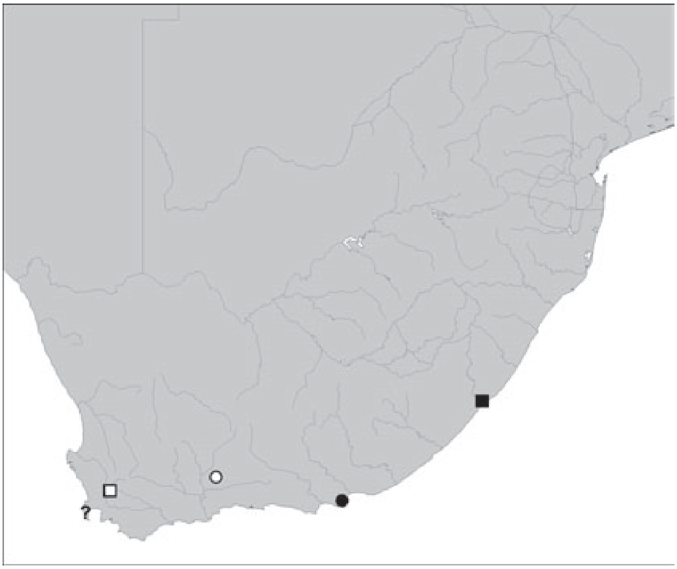

Fig. 36. Distribution of the genus *Novoclaviger*: ● – *N. auriculatus* and *braunsi*; **?** – presumed record of *N. braunsi*; ○ – *N. joncooteri*; ☐ – *N. pugionis*; ■ – *N. reticulatus*.

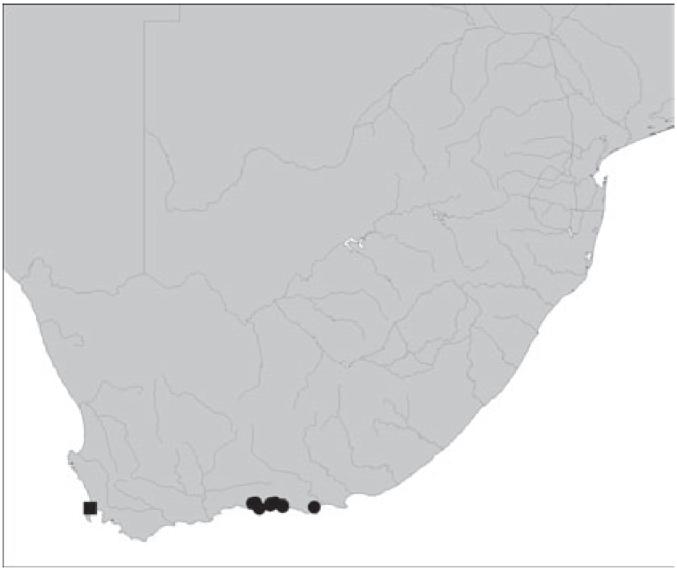

Fig. 37. Distribution of the genus *Novoclaviger*: ● – *N. gibbiventris*; ■ – *N. majusculus*.

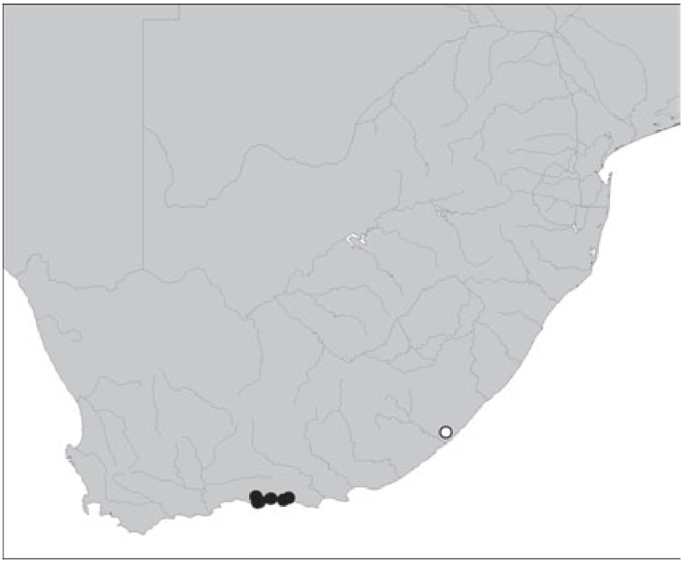

Fig. 38. Distribution of the *Novoclaviger wroughtoni* group: ● – *N. wroughtoni*, ○ – *N. wroughtoni* group, undescribed species.

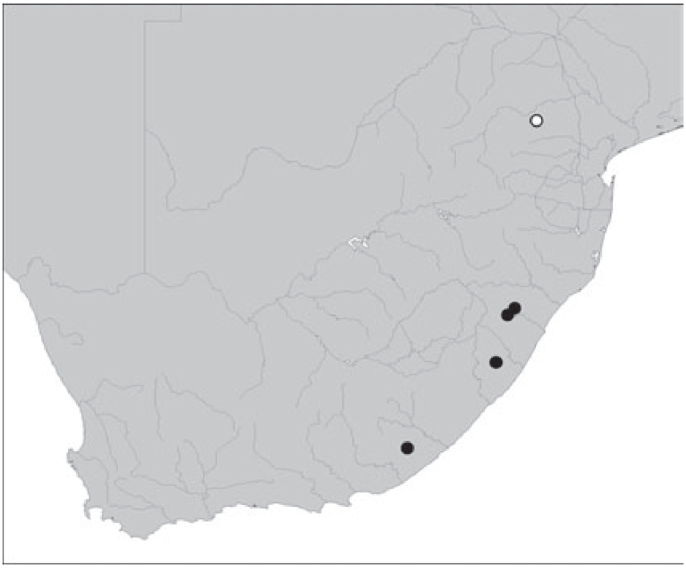

Fig. 39. Distribution of the genus *Pararticerus*: ● – *P. latus*; ○ – *P. ruthae*.